11 Mbps Wireless LAN PC Card User Guide

Full featured wireless local area networking made simple.

Version 2.0

http://www.3com.com/
http://support.3com.com/warrantyregistration/register.pl

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1 INTRODUCTION

3Com wireless technology brings the benefits of a local area network (LAN) to your office without the restraints and expense of network wiring. If your office already has an Ethernet LAN, the 3Com 11 Mbps Wireless LAN can extend the network without adding more wires.

How Does a Wireless LAN Work?

In a traditional LAN, computers communicate through wires. Instead of wires, a wireless LAN uses radio signals to communicate.

Network Association

Computers that are equipped for wireless LAN communication are called wireless LAN *clients*. The wireless communication is called network *association*. Clients associate through one or more *access points*, which are wireless base stations that act as wireless hubs.

An access point can be connected to a wired network device such as an Ethernet hub, switch, or router to give clients access to the wired network where they can share files and printers and gain access to the Internet.

Roaming

If the office space is large, you can set up multiple access points on the same network to increase coverage. When a wireless client begins to lose the signal as it moves away from an access point, it can reassociate seamlessly with another access point. This is called *roaming*.

Security

You can set up security to encrypt your wireless transmissions so that your data cannot be deciphered if it is intercepted, and to prevent access to the network by unauthorized clients.

Ad Hoc Networks

Wireless clients can associate among themselves at close range without an access point by using *ad hoc* (temporary) networks. You may wish to set up an ad hoc network, for example, if a group is working away from the office, or if a group in the office needs to share files apart from the LAN.

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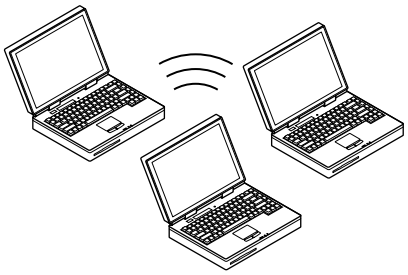
Setting Up a 3Com Wireless LAN

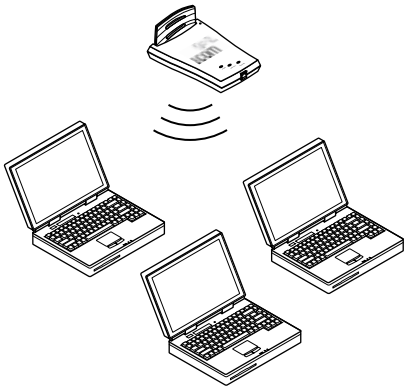
The type of network you decide to set up depends on the size of your office and whether or not you require connection to a wired LAN. You can also set up security for each of the different types of networks. Your set up will probably resemble one or more of the following examples.

All Wireless Networks

The simplest 3Com wireless LAN consists of several clients associating in an ad hoc network without an access point.



A simple configuration consists of one access point and several clients. The clients can associate with the wireless network anywhere within the coverage area of the access point. The access point is not connected to any other network segments.



For more complex requirements, you can configure several access points as separate networks at the same site. The access points use different network identifiers called *wireless LAN service areas* (*WLAN service areas*, also called *Extended Service Set Identities* or *ESSID*). Clients can roam within the coverage areas of access points that have the same WLAN service areas. They cannot roam to the coverage areas of access points that are configured with different WLAN service areas.

Wired/Wireless Networks

An access point can be connected to a wired LAN with an Ethernet cable to create a mixed wired/wireless network. In this configuration, the access point provides the link between the wired network and wireless clients. Clients can move freely throughout the service area of the access point and remain associated with the larger network for services such as printing and Internet access.

Multiple access points can be connected to an existing LAN to provide complete wireless network coverage. Wireless clients can roam seamlessly between different access points with the same WLAN service areas and remain associated with the larger network.

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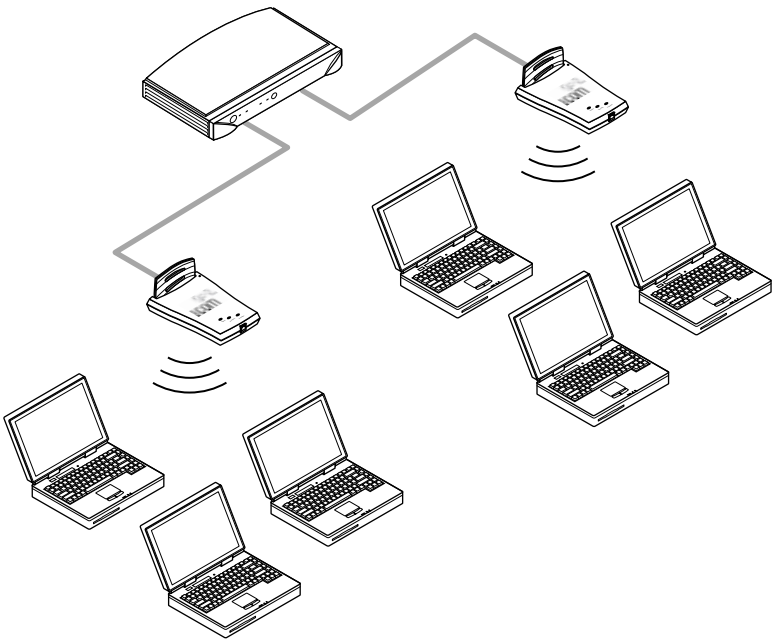

Product Registration and Support

To register your product with 3Com, go to the following Web page:

http://support.3com.com/warrantyregistration/frontpg.pl

For support information, see “Technical Support” on page 39 and go to the following Web page:

http://support.3com.com

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2 INSTALLING THE WIRELESS CLIENT

Installing a wireless client consists of inserting the 3Com Wireless LAN PC Card with XJACK® Antenna in your computer and installing the software driver and utilities. If you have 3Com Administrator Utilities installed on a wireless client, you can manage access points or run a site survey.

Requirements

Before you start the installation, make sure that you have the following items:

Operating System	One of the following: ■ Windows 95 The 3Com wireless LAN PC Card runs under Windows 95 version B or higher. If you do not know which version of Windows 95 is installed on your computer, you can display it as follows: In the Control Panel, double-click *System* to display the System Properties dialog box. Click the *General Tab* to display the Windows 95 version information. Version B (also known as OSR 2) is identified as 4.00.950b. ■ Windows 98 ■ Windows Millennium Edition (Windows Me) ■ Windows NT with Service Pack 4 or above ■ Windows 2000
Web Browser	Internet Explorer version 4 required. Internet Explorer version 5.5 recommended. You can download Internet Explorer from www.microsoft.com
PC Card	3Com 11 Mbps Wireless LAN PC Card with XJACK Antenna
Installation Media	One of the following *3Com CDs*: ■ *3Com End User Utilities CD*, which comes with the PC Card and contains utilities for users. ■ *3Com Administrator Utilities CD*, which comes with the 3Com 11 Mbps Wireless LAN Access Point and contains utilities for users and tools for administrators.
Other Requirements	■ The installation program may ask for the operating system installation media (usually a CD supplied with your computer) or for a path to the operating system files. If you have other networking software installed on your computer, the installation program may ask for its installation media. ■ If you need to install from diskettes, see "Disk Factory".

Disk Factory

If you are installing the software on a computer that does not have a CD-ROM drive, or if you choose to install the drivers manually, you will have to make diskettes from the *3Com CD*. The setup application includes Disk Factory, a utility for creating disks from CD. To use disk factory, you need access to a computer

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with a CD-ROM drive and a floppy drive and eight or more diskettes. Make sure you have enough diskettes on hand.

1 For the driver software, prepare a diskette labeled *Drivers.*

For the rest of the software, label diskettes numerically (*Disk 1, Disk 2, Disk 3...).*

2 Put the *3Com CD* in the CD-ROM drive. The setup program should start automatically. If it does not start, you can run it manually by selecting *Run* from the Start menu and specifying the srsetup.exe program (for example, d:\srsetup.exe).

3 In the 3Com 11 Mbps Wireless LAN menu, click *Tools and Utilities*.

4 In the Tools and Utilities menu, click *Create Installation Diskettes*.

5 In the Disk Factory window, click *Next*.

6 Select the software you want to transfer to diskette. The Disk Factory displays the number of diskettes that will be required. Make sure you have that number of diskettes.

7 Select the action (for example, *Create and Verify Disks),* specify the destination location, and click *Next*.

Follow the prompts on the screen.

If you are installing the drivers manually, use the *Drivers* diskette when the setup wizard for your operating system prompts for drivers supplied by the manufacturer.

When you are ready to install the application software from diskette, put *3Com 11 Mbps Wireless LAN Application Disk 1* in the floppy drive and run the setup.exe program.

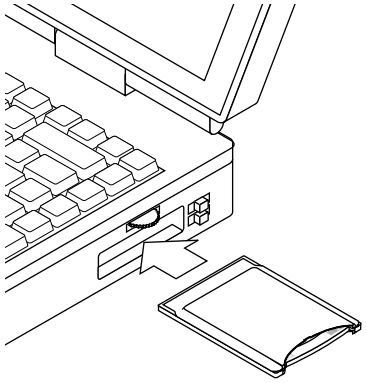
Inserting the PC Card

1 Turn on the computer.

2 Insert the 3Com PC Card into the PC Card slot until it seats snugly.

Arrows on the front of the card indicate the insertion point to the slot. Align the card properly before inserting it in the slot.

CAUTION: *Forcing the card into the slot can damage the computer or the card.*



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Installing the Software

Depending on how your computer is set up, the installation program may ask for the operating system installation media (usually a CD supplied with your computer) or for a path to the operating system files. If you have other networking software installed on your computer, the installation program may ask for the networking software installation media. Make sure that you have the appropriate installation CDs or that you know the appropriate paths before you begin installing the software.

If you need help during the installation, see "Troubleshooting" on page 31.

Follow the instructions for your operating system:

For this Windows version:	See this procedure:
Windows 2000, Windows Millennium Edition (Windows Me), Windows 98, Windows 95	"Windows Wizard Installation" on page 11
Windows NT	"Windows NT Installation with Networking Installed" on page 12 or "Windows NT Installation Without Networking Installed" on page 35.

Windows Wizard Installation

Make sure that the computer is running and the PC Card is inserted. The driver installation process starts automatically when the PC Card is inserted.

Install Files

1. Put the *3Com CD* in the CD-ROM drive.

   If you are installing from diskettes, insert the Drivers diskette.
2. In the Add New Hardware Wizard window, click *Next*.
3. Respond to the instructions in the next windows:
   a. When the driver location is confirmed, click *Next*.
   b. Verify the driver name (3Com 3CRWE62092A Wireless LAN PC Card) and click *Next*.

      The installation program copies files from the *3Com CD* and Windows operating system.

      This copying process may take a few moments, and the progress bar may seem to update slowly.

      The installation may prompt for your operating system installation CD, for a path to the operating system, or for the installation CD of other installed networking software. If it does, remove the *3Com CD* and insert the appropriate CD.
   c. When you are notified that the installation is complete, remove the CD and click *Finish*.
4. At the prompt to restart the computer, click *Yes*.

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Set Up the PC Card

After the computer restarts, the 3Com 11 Mbps Wireless LAN Client Setup window opens, in which you specify the PC Card configuration.

1. In the 3Com 11 Mbps Wireless LAN Client Setup window, select *Typical* and click *Next*.

   Typical configures the PC Card with the following default values:

   WLAN Service Area—Attach to any WLAN Service Area automatically

   Security Setting—No security (Open system)

   If you want to customize the PC Card configuration, for example, to add security, select *Custom*. See "Custom Installation Options" on page 16 for details on custom settings. For the fastest installation, it is recommended that you use the typical settings. You can customize the configuration later as described in "Setting the Wireless Client Configuration" on page 23.

2. In the Summary window, review the PC Card setup. To install the software utilities, make sure that the *Start client software installation when finished* box is checked.

   If you are reinstalling the PC Card and already have the software utilities installed, this box is unchecked.

3. Click *Finish* to complete the PC Card setup and start the software utilities installation.

   The 3Com 11 Mbps Wireless LAN Setup program starts.

   If you are installing from diskettes, insert *Disk 1* and run the setup.exe program to start the software utilities installation.

Install Utilities

1. Read the Welcome page and click *Next*.
2. Read the Software License Agreement and click *Yes*. (If you click *No*, the installation stops.)
3. Select a destination folder for the software files and click *Next*.
4. In the Setup Type window, select the type of installation for the software:

   Typical—Installs the software and documentation.

   Compact—Installs the software, but not documentation.

   Custom—Allows you to choose the components to install.
5. Follow the directions in the Select Program Folder window and click *Next*.
6. In the Desktop Icon Option window, click *Yes*.
7. In the Setup Complete window, click *Finish*.
8. If you are prompted to restart your computer, do so.

   This completes the basic installation. To confirm the installation, see "Confirming the Installation" on page 15.

Windows NT Installation with Networking Installed

The following procedure is for installing the card software when networking is already installed on your computer. If networking is not already installed, see "Windows NT Installation Without Networking Installed" on page 35.

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The CardWizard utility, which helps Windows NT to load and manage software, must be installed. If the installation program does not detect the CardWizard utility on your computer, it will ask whether you want to install it. If you already have a similar utility installed, you must first uninstall that utility to prevent conflicts with CardWizard.

Internet Explorer version 4 is required to view help files. It is recommended that you install Internet Explorer version 5 or later.

Install Files

1. Make sure that the computer is running and the PC Card is inserted.
2. Put the *3Com CD* in the CD-ROM drive.

   If the 3Com 11 Mbps WLAN Menu appears, click *Exit*.
3. From the Windows Start menu, select *Settings/Control Panel*.
4. In the Control Panel, double-click *Network*.
5. Click the *Adapters* tab.
6. In the Adapters tab, click *Add*.
7. In the Select Network Adapter window, click *Have Disk*.
8. In the Insert Disk window, make sure that the correct path to your CD-ROM drive appears in the entry box (for example, d:) and click *OK*.

   If you are installing from diskettes, enter the path to the diskette drive.
9. In the Select OEM Option window, select *3Com 3CRWE62092A Wireless LAN PC Card* and click *OK*.
10. In the PC Card Setup window, accept the default settings and click *OK*.

    The default settings work in most cases. However, you may need to specify values for your installation.

    Wait while the files are copied.
11. In the Adapters tab, click *Close*.
12. If the Microsoft TCP/IP Properties screen appears, enter the requested information for your network environment.

    Refer to the Windows NT documentation for assistance. If you choose the DHCP server option, click *Yes* to the DHCP prompt. When you are finished entering the appropriate TCP/IP information, click *OK*.
13. When prompted to restart the computer, click *Yes*.

Install CardWizard

If CardWizard was already installed before you began installing the PC Card, this portion is skipped and the installation proceeds directly to "Set Up the PC Card".

1. At the prompt to install CardWizard, click *Yes*.

   If you click No and you do not have CardWizard installed, the installation stops.
2. In the CardWizard window, click *Next*.
3. In the CardWizard welcome page, click *Next*.

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4 Read the CardWizard Software License Agreement and click *Yes*.

5 When prompted to remove the PC Card, eject the card and click *Yes*.

6 In the Select Type of Platform window, select your computer type and click *Next*.

If your computer type is not listed, select *Other Notebook* and click *Next*.

7 Respond to the prompts to install CardWizard.

8 When the CardWizard installation finishes, click the radio button to restart the computer and click *Finish*.

9 Insert the PC Card.

Set Up the PC Card

After the computer restarts, the 3Com 11 Mbps Wireless LAN Client Setup window opens, in which you specify the PC Card configuration.

1 In the 3Com 11 Mbps Wireless LAN Client Setup window, select *Typical* and click *Next*.

Typical configures the PC Card with the following default values:

WLAN Service Area—Attach to any WLAN Service Area automatically

Security Setting—No security (Open system)

If you want to customize the PC Card configuration, for example, to add security, select *Custom*. See "Custom Installation Options" on page 16 for details on custom settings. For the fastest installation, it is recommended that you use the typical settings. You can customize the configuration later as described in "Setting the Wireless Client Configuration" on page 23.

2 In the Summary window, review the PC Card setup and click *Finish*.

3 When prompted to run the Setup program, click *OK*.

4 Run the Setup program:

a From the Windows Start menu, select *Run*.

b In the Run dialog box, enter a path to the Setup program on the *3Com CD*. For example, d:\srsetup.exe.

The 3Com 11 Mbps Wireless LAN Setup program starts.

Install Utilities

1 Read the Welcome page and click *Next*.

2 Read the Software License Agreement and click *Yes*. (If you click *No*, the installation stops.)

3 Select a destination folder for the software files and click *Next*.

4 In the Setup Type window, select the type of installation for the software:

Typical—Installs the software and documentation.

Compact—Installs the software but not documentation.

Custom—Allows you to choose the components to install.

5 Follow the directions in the Select Program Folder window and click *Next*.

6 In the Desktop Icon Option window, click *Yes*.

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7 In the next window, if the option to restart the computer appears, select it and click *Finish*.

If you had a service pack installed before setting up the PC Card, reinstall it and restart the computer.

This completes the basic installation. To confirm the installation, see "Confirming the Installation".

Confirming the Installation

When the PC Card and software are installed correctly, you will see the following items after you restart the computer:

- PC Card LED is blinking.
- 3Com WLAN Launcher is running. This utility shows the status of your network association.
- 3Com icon is in the Windows system tray.
- Shortcut icon to the 3Com WLAN Launcher is on your desktop (unless you specified no icon during the installation).

If you do not see the 3Com WLAN Launcher window, click the 3Com icon in the Windows system tray to display it.

If the 3Com WLAN Launcher is not already running, you can start it by double clicking the shortcut on your desktop, or, from the Windows Start menu, select *Start/Programs/3Com 11 Mbps Wireless LAN/3Com WLAN Launcher*.

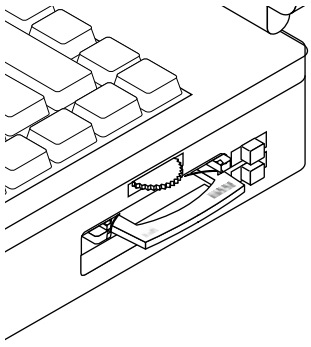
For more information, see "Using the Wireless LAN" on page 19.

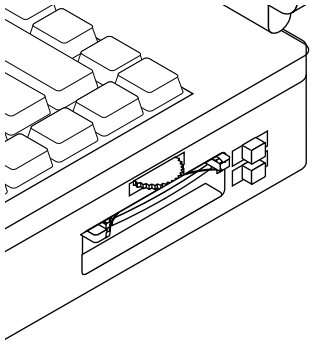
Using the XJACK Antenna

The XJACK antenna, which is attached to the end of the PC Card, has two positions: extended and retracted. To extend or retract the antenna, gently but firmly press and release it. The antenna must be extended to make a network association. To prevent it from damage, the antenna should be retracted when not in use, when you are inserting the card in your computer, or when you are transporting the computer.

CAUTION: *Do not pull on the antenna to remove the card.*

The figures below show the antenna extended and retracted.





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To get the best reception:

- Clear the area around the antenna of items that could block radio transmission, such as metal objects, electronic devices, and cordless telephones.
- Even a slight change in antenna orientation can affect the network association. If necessary, move your computer a few inches to find a better signal.

Custom Installation Options

If you want to set up a custom configuration during installation, when the installation program asks for the Setup Type, select *Custom* and click *Next*.

You can change the WLAN Service Area and Security settings.

WLAN Service Area

Attach to any WLAN Service Area automatically—This option associates the client automatically to the WLAN service area with the best signal strength.

Specify a WLAN Service Area—Select this option and enter the name of a WLAN service area. The name must match the name of the access point WLAN Service Area exactly.

For more information on these settings, see "Changing Network and Security Settings" on page 23.

Security Settings

In the Security settings window, select one of the options and click *Next*.

If you select *No Security* for no encryption, no further configuration is necessary.

The other options require you to configure encryption keys or authentication settings in the next window. The settings must match those on the access point. For more information on these settings, see "Security Settings" on page 24.

40-bit Shared Key (Wi-Fi) Encryption

40-bit Shared Key (Wi-Fi) security requires you to set up encryption keys using one of the following:

- An *encryption string*, which is a string of characters between 8 and 64 characters long. The string is a combination of letters and numbers and is case sensitive. The encryption string can be used only with other 3Com 11 Mbps Wireless LAN PC Cards and access points, and must match exactly across all devices in the wireless network.
- Hexadecimal keys (for use with compatible equipment from other manufacturers). The key sequences must match exactly across all devices in the wireless network.

Ask your system administrator for the encryption string or hexadecimal keys.

To enter an encryption string:

1. In the Security settings window, select *40-bit Shared Key (Wi-Fi)* and click *Next*.
2. In the Encryptions Settings window, select *Text Message.*
3. Type the encryption string in the spaces provided.
4. Click *Next* when finished.

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To enter hexadecimal keys:

1 In the Security settings window, select *40-bit Shared Key (Wi-Fi)* and click *Next*.

2 In the Encryptions Settings window, select *Hexadecimal Keys*.

3 Type the encryption key sequences in the spaces provided. You must enter key sequences for all four keys.

4 Click one of the radio buttons to select a key to use for encrypting data from your computer.

5 Click *Next* when finished.

128-bit Dynamic Security Link Authentication

128-bit Dynamic Security Link security can only be used with other 3Com 11 Mbps Wireless LAN PC Cards and access points.

1 Ask your network administrator for the user name and password.

2 In the Security settings window, select *128-bit Dynamic Security Link* and click *Next*.

3 In the Authentication Settings window, type the user name and password in the spaces provided.

4 Enter the password again to confirm it.

5 Click *Next* when finished.

Installing the Documentation

Documentation in PDF and HTML formats are supplied on the *3Com CD* and are installed automatically during a typical installation. If you chose not to install documentation when you installed the PC Card and utilities, you can use Add/Remove Programs in the Control Panel to install it.

1 From the Windows Start menu, select *Start/Settings/Control Panel*.

2 Double click *Add/Remove Programs*.

3 In the next window, select *3Com 11 Mbps Wireless LAN* and click *Add/Remove*.

4 In the Install Shield Wizard window, click the *Modify* radio button and click *Next*.

5 In the next window, check the boxes next to the documents that you want to install and click *Next*.

A dialog box containing a document file name appears.

6 Insert the *3Com CD*.

7 Browse to the path on the CD that contains the file name indicated in the dialog box and click *OK*.

You need Acrobat Reader to read the documentation in PDF format and a Web browser to read the documentation in HTML format. The English versions of Acrobat Reader and the Internet Explorer Web browser are on the 3Com CD.

You can obtain versions of Acrobat Reader in languages other than English from the Adobe Web site at www.adobe.com.

You can obtain versions of Internet Explorer in languages other than English from the Microsoft Web site at www.microsoft.com.

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3 USING THE WIRELESS LAN

The 3Com WLAN Launcher shows the status of your network association and allows you to perform some network association and configuration tasks.

The functions of the 3Com WLAN Launcher buttons are:

	Access Point	Refreshes the association with the access point when you are associated with an access point. When you are associated with an ad hoc network, this button ends the ad hoc session and associates you to an access point.
	Computer	Displays the Ad Hoc Network Login window, in which you can do the following: ■ When you are associated with an access point, you can end the access point association and start an ad hoc session. ■ When you are associated with an ad hoc network, you can start a new ad hoc session or edit the current ad hoc configuration.
	Padlock	Displays the Network/Security tab of the 3Com WLAN Configuration utility.
	Hammer	Displays the Tools tab of the 3Com WLAN Configuration utility.
	Help	Displays help.
	Close	Minimizes the 3Com WLAN Launcher window, but does not quit the application.

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About the 3Com Icon

When the 3Com WLAN Launcher is running, the 3Com icon in the Windows system tool tray displays the status of the network association:

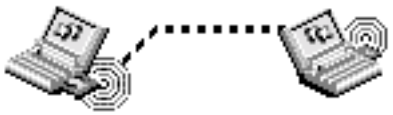
Associated	Green radio waves indicate a good association with an access point.
Not Associated	Red circle with a white X indicates no association with an access point.
Card Removed	Yellow circle with a black X indicates that no PC Card is detected by the computer.

If the 3Com WLAN Launcher is hidden, click the 3Com icon to display it. You can also right-click the 3Com icon and select from these menu items:

Open	Displays the WLAN Launcher.
Refresh AP	Disconnects you from an ad hoc network session and reconnects you to an access point.
End AP/Start Ad hoc	Displays the Ad Hoc Network Login window, where you can start or join an ad hoc network session.
Security Settings	Displays the Network/Security tab, where you can set up security.
Tools	Displays the Tools tab, where you can run WLAN Launcher applications.
Show Ethernet Link Status	Controls the Ethernet status display. This option appears only if you are associating with a 3Com 11 Mbps Wireless LAN Access Point.
Exit	Quits the WLAN Launcher program. After you exit, the 3Com icon no longer displays in the Windows system tray unless you restart the WLAN Launcher.

Interpreting Status Icons

The 3Com WLAN Launcher window shows the status of your network association and continuously updates the status. The following tables describe the various states.

Good Status	
The icon on the left represents your computer (the client) with the 3Com PC Card installed. The icon on the right represents the access point. The green dotted line between the two icons indicates a good network association.	
If both icons are computers, you are associating with an *ad hoc* network For information on how to set up an ad hoc network, see “Setting up an Ad Hoc Network” on page 26.	

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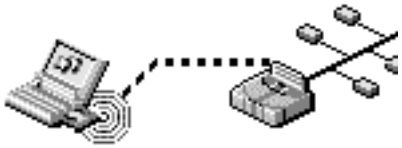
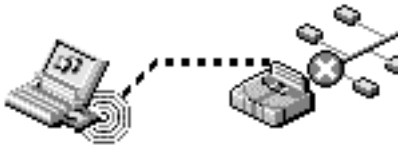
Good Status	
A green dotted line with a padlock between the two icons indicates a good association with security.	
If you are using a 3Com 11 Mbps Wireless LAN Access Point and it is properly connected to an Ethernet network, a network icon is shown. If the access point is from another manufacturer, no network icon is shown.	

Problem Status	
If you see an X or a red line, refer to "Troubleshooting" on page 31.	
A yellow X on the PC Card slot of the computer icon indicates that the operating system does not recognize the card or that no card is inserted.	
A red dotted line with an X indicates that the card is installed properly, but there is no association between the computer and the access point.	
An X on the cable connected to the access point indicates that the card is installed properly and there is a good association with the access point, but there is a problem with the Ethernet connection to the access point. If you do not have an Ethernet cable connected to the access point, you can turn off the Ethernet status display. Right click the 3Com icon in the Windows system tray and clear the *Show Ethernet Link Status* option.	

Using the 3Com WLAN Configuration Utility

You can use the 3Com WLAN Configuration Utility window to customize the wireless client set up after installation. If you have 3Com Administrator Utilities, you can also launch administration tools.

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To display the 3Com WLAN Configuration Utility window:

1 In the Windows system tray, click the 3Com icon to display the 3Com WLAN Launcher.

If the 3Com WLAN Launcher is not already running, you can start it from the Windows Start menu. Select *Start/Programs/3Com 11 Mbps Wireless LAN/3Com WLAN Launcher*.

2 In the 3Com WLAN Launcher, click the *Padlock* or the *Hammer* icon to display the 3Com WLAN Configuration Utility window. (The tab that appears on top depends on the icon used to open the window.)

The 3Com WLAN Configuration Utility window contains these tabs:

- Network/Security—See "Changing Network and Security Settings" on page 23 and "Setting up an Ad Hoc Network" on page 26.
- Options—See "Changing Power, Traffic, and Address Settings" on page 27.
- Tools—See "Changing Your Password" on page 28, "Running Diagnostics" on page 29, or "Upgrading PC Card Firmware" on page 34. If you have 3Com Administrator Utilities, you can also perform access point management tasks.
- Info— See "Viewing Configuration Information" on page 29.

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4 SETTING THE WIRELESS CLIENT CONFIGURATION

Changing Network and Security Settings

You can change security and network settings for the wireless client in the Network/Security tab.

1 In the Windows system tray, click the 3Com icon to display the 3Com WLAN Launcher.

If the 3Com WLAN Launcher is not already running, you can start it from the Windows Start menu. Select *Start/Programs/3Com 11 Mbps Wireless LAN/3Com WLAN Launcher*.

2 In WLAN Launcher, click the *Padlock* icon.

In the top half of the Security/Network tab, you can change settings for an access point network. In the lower half of the tab, you can configure settings for an ad hoc network.

3 To configure settings for an access point network, see "Network Settings" and "Security Settings" on page 24.

To configure settings for an ad hoc network, click *Start Ad hoc*. See "Setting up an Ad Hoc Network" on page 26.

4 If your selection requires encryption key settings, click *Encryption Key Settings* and enter the encryption key settings in the next window. (Ask your network administrator for the encryption settings.) See "40-bit Shared Key (Wi-Fi) Encryption Settings" on page 24.

Network Settings

Network settings determine the wireless network with which the client can associate. Some wireless LANs are set up with different WLAN service areas. Clients can roam within the coverage areas of access points that have the same WLAN service areas. They cannot roam to the coverage areas of access points that have different WLAN service areas.

To change the settings:

1 In the Windows system tray, click the 3Com icon to display the 3Com WLAN Launcher.

If the 3Com WLAN Launcher is not already running, you can start it from the Windows Start menu. Select *Start/Programs/3Com 11 Mbps Wireless LAN/3Com WLAN Launcher*.

2 In WLAN Launcher, click the *Padlock* icon.

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3 In the Security/Network window, WLAN Service Area displays the name of the wireless network with which the wireless PC client can associate. You can change this setting as follows:

Attach to any WLAN Service Area automatically

Check this box to associate the client automatically to the WLAN service area with the best signal strength. This is recommended.

Specify a WLAN Service Area

First uncheck the *Attach to any WLAN Service Area automatically* box. Then, you can either enter the name of a service area (up to 32 characters long), or select from recently used WLAN service areas or from all available WLAN Service Areas within the range of the client.

Security Settings

You can set the level of security used to protect the network communications between the client and the access point from interception by unintended recipients. The security settings must match those that the network administrator has set up on the network. Some security levels require you to supply encryption settings. The levels of security are:

No Security (Open System)	No encryption is used. The network communications could be intercepted by unintended recipients.
40-bit Shared Key (Wi-Fi)	This option encrypts the wireless transmissions to protect your data and is compatible with other Wi-Fi certified wireless PC clients and access points from other manufacturers.
128-bit Dynamic Security Link	This option can only be used with a 3Com 11 Mbps Wireless LAN Access Point. It is the highest level of security, in which you must enter a user name and password. These must match the user name and password set up by the administrator on the access points with which you associate. Each network session automatically creates a unique, one-time, 128-bit encryption key. You never have to enter a key.

To maintain wireless association between clients and access points, follow these guidelines:

- The security setting on the client and the access points must match exactly.
- For 40-bit Shared Key (Wi-Fi) security, the encryption settings on the client and the access point must match exactly.
- For 128-bit Dynamic Security Link security, the user name and password on the client and the access points must match exactly.

40-bit Shared Key (Wi-Fi) Encryption Settings

40-bit Shared Key (Wi-Fi) security requires you to set up encryption keys. Your network administrator sets up encryption keys for the wireless network and gives you an encryption string or hexadecimal keys.

- An encryption string is a string of characters between 8 and 64 characters long. The string can be any combination of letters and numbers and is case sensitive. The encryption string can be used only with other 3Com 11 Mbps wireless PC Cards and access points.

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- Hexadecimal keys are sequences of hexadecimal digits arranged into four keys. A hexadecimal digit may be a letter from A to F or a number from 0 to 9. This type of encryption is compatible with Wi-Fi certified equipment from other manufacturers.

To enter an encryption string:

1. In the Security/Network window, select *40-bit Shared Key (Wi-Fi)* from the Security setting list.
2. Click *Encryption Key Settings*.
3. In the next window, select *Specify Encryption String*.
4. Type the encryption string in the space provided.
5. Click *OK* when finished.

To enter hexadecimal keys:

1. In the Security/Network window, select *40-bit Shared Key (Wi-Fi)* from the Security setting list.
2. Click *Encryption Key Settings*.
3. In the next window, select *Specify Encryption Keys*.
4. Enter the key settings.

   You must enter settings for all four keys.
5. Click one of the radio buttons to select a key to use.
6. Click *OK* when finished.

128-bit Dynamic Security Link Settings

128-bit Dynamic Security Link security requires a user name and password. Ask your network administrator for the user name and password.

1. In the Network/Security window, select 128-bit Dynamic Security Link from the Security setting list.
2. Click *Apply*.
3. In the next window, type the user name and password in the spaces provided.
4. Click *OK* when finished.

After you log in successfully the first time, Windows remembers the password the next time you log in. Your network administrator may require you to log on every time.

Setting up Auto Network Connect

Auto Network Connect ensures network association even when traversing subnets. The client automatically associates with the nearest access point that has compatible encryption settings and automatically obtains a valid IP address.

This option requires a Dynamic Host Control Protocol (DHCP) server. The client's network configuration must be set to obtain its IP address automatically. For more information on DHCP, see the documentation for your operating system.

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Follow these steps to set up Auto Network Connect:

1. In the Windows system tray, click the 3Com icon to display the 3Com WLAN Launcher.

   If the 3Com WLAN Launcher is not already running, you can start it from the Windows Start menu. Select *Start/Programs/3Com 11 Mbps Wireless LAN/3Com WLAN Launcher*.

2. In WLAN Launcher, click the *Padlock* icon.
3. In the Security/Network window, check the *Attach to any WLAN Service Area automatically* box.
4. Click the Options tab.
5. In the Options window, check the *Automatically release/renew the IP address* box.
6. Click *OK*.

Setting up an Ad Hoc Network

An ad hoc network is useful when you are out of the range of an access point or when you want to share files with others, but not with the entire network. When two or more clients are in ad hoc mode and within range of each other, they can communicate with each other directly through their 3Com Wireless LAN PC Cards without an access point. One client starts the ad hoc session and names it. Other clients can then join the ad hoc network session.

Starting an Ad Hoc Network Session

Follow this procedure to start an ad hoc network session:

1. In the Windows system tray, click the 3Com icon to display the 3Com WLAN Launcher.

   If the 3Com WLAN Launcher is not already running, you can start it from the Windows Start menu. Select *Start/Programs/3Com 11 Mbps Wireless LAN/3Com WLAN Launcher*.

2. In WLAN Launcher, click the *Computer* icon.
3. In the Ad hoc Network Login window, type a new network name in the space provided.

   This name identifies your ad hoc network to the rest of the clients.

4. Select a security setting.

   You can select No Security (Open System) or 40-bit Shared Key (Wi-Fi). If you select 40-bit Shared Key (Wi-Fi), enter the required encryption information. (For details on encryption settings, see "40-bit Shared Key (Wi-Fi) Encryption Settings" on page 24.)

   This security setting only applies to this ad hoc network and only affects the transmissions among the participating ad hoc clients. It does not affect security settings for communication with access points.

5. Select the performance mode.

   If only 3Com 11 Mbps Wireless LAN clients will be participating in the ad hoc network session, click the *Enhanced* radio button. If clients from other manufacturers will be participating, click the *Wi-Fi interoperable* radio button.

6. Click *OK*.

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Joining an Ad Hoc Network Session

The TCP/IP or NetBEUI protocol settings of clients participating in an ad hoc network session must match. For example, TCP/IP must be configured on the same subnet and NetBEUI must be configured with the same workgroup.

After a client has started an ad hoc network session, other clients may join it as follows:

1. In the Windows system tray, click the 3Com icon to display the 3Com WLAN Launcher.

   If the 3Com WLAN Launcher is not already running, you can start it from the Windows Start menu. Select *Start/Programs/3Com 11 Mbps Wireless LAN/3Com WLAN Launcher*.
2. In WLAN Launcher, click the *Computer* icon.
3. In the Ad-hoc Network Login window, select the network name of the ad hoc session you are joining from the drop-down list.
4. Set your security to match that of the client that started the ad hoc session.
5. Set the performance mode to match that of the client that started the ad hoc session.
6. Click *OK*.

Ending an Ad Hoc Network Session

There are two ways to end an ad hoc network session and reassociate with an access point:

- Right-click the 3Com icon in the Windows system tray and select *End Ad Hoc/Connect to AP* from the menu.
- Display the WLAN Launcher and click the *Access Point* icon.

Changing Power, Traffic, and Address Settings

You can change power management, network traffic, and IP address settings as follows:

1. In the Windows system tray, click the 3Com icon to display the 3Com WLAN Launcher.

   If the 3Com WLAN Launcher is not already running, you can start it from the Windows Start menu. Select *Start/Programs/3Com 11 Mbps Wireless LAN/3Com WLAN Launcher*.
2. In WLAN Launcher, click either the *Padlock* or the *Hammer* icons.
3. In the WLAN Configuration Utility window, click the Options tab.

   In the Options window you can change the settings described below.

   Automatically manage power based on the detected power source

   When this radio button is selected, and if your computer is able to detect its power source automatically, the PC Card will automatically switch between the following modes:

   Power saving mode—Recommended when the computer is using battery power.

   Continuous access mode—Gives faster network performance and is recommended when the computer is using AC power.

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Manually set the power management

When this radio button is selected, you can select the power mode manually. You may want to select this mode, for example, if your computer cannot detect its power source or if you want to improve performance by forcing continuous access even though you are using battery power.

Windows NT users must select the power mode because the operating system cannot detect its power source.

Network Traffic Accelerator

If only 3Com 11 Mbps Wireless LAN equipment is being used, it is recommended that you turn this option on to increase the rate at which traffic is handled.

Automatically release/renew the IP address

Your Internet Protocol address (IP address) contains the information that allows network traffic to find its way to your computer.

This option requires a Dynamic Host Control Protocol (DHCP) server. The client's network configuration must be set to obtain its IP address automatically. For more information on DHCP, see the documentation for your operating system.

When this box is checked, your computer automatically requests another IP address if you travel outside of your subnet, so the network connection remains active. Leave the box unchecked if your network does not have a DHCP server.

To force the system to release and renew an IP address, click *Release/Renew Now*. You may want to click this button, for example, if you cannot establish association with the network or if you roam in an installation that has multiple access points and you lose network association.

Changing Your Password

The Change Password utility lets you update the password used in the access control list of the access point with which the client is associated. This is only applicable if you have configured the client to use 128-bit Dynamic Security Link security.

Because access points maintain separate User Control Lists, you must update the password separately on each access point that you associate with.

1. In the Windows system tray, click the 3Com icon to display the 3Com WLAN Launcher.

   If the 3Com WLAN Launcher is not already running, you can start it from the Windows Start menu. Select *Start/Programs/3Com 11 Mbps Wireless LAN/3Com WLAN Launcher*.

2. In WLAN Launcher, click the *Hammer* icon.
3. In the Tools window, double-click the *Change Password* icon.
4. In the Change Password dialog box, follow the instructions to change the password and click *OK*.

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Running Diagnostics

The Diagnostics tool checks adapter presence, network connection, signal strength, and link quality.

1. In the Windows system tray, click the 3Com icon to display the 3Com WLAN Launcher.

   If the 3Com WLAN Launcher is not already running, you can start it from the Windows Start menu. Select *Start/Programs/3Com 11 Mbps Wireless LAN/3Com WLAN Launcher*.

2. In WLAN Launcher, click the *Hammer* icon.
3. In the Tools tab, double-click the Diagnostics icon.
4. Check the boxes next to the tests you want to run.
5. Click *Start*.

   The tests run and the results appear in the status column of the Tools tab.

Viewing Configuration Information

The Info tab summarizes configuration information about the PC Card and the wireless LAN. To view configuration information:

1. In the Windows system tray, click the 3Com icon to display the 3Com WLAN Launcher.

   If the 3Com WLAN Launcher is not already running, you can start it from the Windows Start menu. Select *Start/Programs/3Com 11 Mbps Wireless LAN/3Com WLAN Launcher*.

2. In WLAN Launcher, click either the *Padlock* or the *Hammer* icons.
3. In the WLAN Configuration Utility window, click the Info tab.

   The following information appears in the Info tab:

Item	Description
Driver version	Useful for troubleshooting
Firmware version	Useful for troubleshooting
MAC Address	Unique hardware name for your PC Card.
IP Address	Your computer's current IP address.
Card Type	Type of client adapter; for example, PCMCIA or PCI.
Power Source	AC power or battery power.
Network Type	Access Point or Ad hoc.
Security Settings	Type of security set for the PC Card. For information on security, see "Security Settings" on page 24.
WLAN Service Area	If the network type is Access Point, shows the currently associated WLAN service area. For information on the WLAN service area, see "Changing Network and Security Settings" on page 23. If the network type is Ad hoc, this item does not appear in the list.
Channel	Radio frequency (RF) channel.

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Item	Description
Network Name	If the network type is Ad hoc, shows the name of the ad hoc network. For information on ad hoc networks, see "Setting up an Ad Hoc Network" on page 26. If the network type is Access Point, this item does not appear in the list.
Access Point MAC Address	Unique hardware name for the associated access point. If the network type is Ad hoc, this field shows N/A.
Power Management	Power mode. For more information on power modes, see "Changing Power, Traffic, and Address Settings" on page 27.
Associated Signal Strength	Indicates the strength of the radio signal. All light green indicates the best signal; all dark green indicates no signal.
Data Rate	Data transfer speed. For example, 11 Mbps, 5.5 Mbps, 2 Mbps, or 1 Mbps.

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5 TROUBLESHOOTING

Diagnosing Problems

The 3Com WLAN Launcher window can help you can diagnose problems. To display the 3Com WLAN Launcher, double click the 3Com icon in the Windows system tray.

If you have difficulty using the PC Card, try the solutions in the following table. If you continue to experience difficulty, see "Upgrading PC Card Firmware" on page 34 or "Uninstalling the Card" on page 33.

Symptom	Solutions
PC Card LED is off.	Make sure the card is properly inserted in the slot. Check the PC Card icon in the Windows control panel and make sure that the card type can be recognized.
PC Card LED is on, but not blinking.	Make sure the card is properly inserted in the slot. Uninstall the card and reinstall it.
PC Card installs as an unknown device.	The Windows Add Hardware Wizard was unable to locate the PC Card drivers. You may have had no CD or the wrong CD inserted in the drive, or the 3Com CD may not have been ready when the wizard looked for the drivers. Remove the unknown device and repeat the installation procedure. Make sure that you insert the 3Com CD when the installation calls for it and that you wait for it to come up to speed in the drive.
Installation program does not finish. The driver fails to load.	There may be a resource conflict. Use the Device Manager to resolve resource conflicts. Select *System* from the Control Panel, and then click the Device Manager tab.
Network association is intermittent. In the WLAN Launcher window, the green dotted line between associated devices blinks to red with an X, indicating that the radio signal is weak. The diagnostic signal strength or link quality tests fail.	Make sure that the XJACK antenna attached to the end of the card is extended. Try reorienting the antenna. For best use of the antenna: ■ Keep the area around the antenna clear from materials that could block radio transmission, such as metal objects, electronic devices, and cordless telephones. ■ If the signal is weak, change the direction of the antenna slightly. ■ If necessary, move your computer a few inches to find a better signal.

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Symptom	Solutions
Computer operating system does not recognize the card. In the WLAN Launcher window, you see a yellow X on the client icon. The diagnostic adapter presence test fails.	Make sure the card is properly inserted in the slot. Make sure that PCMCIA support is installed. Check whether a card is already in use. Windows 95, Windows 98, Windows Millennium Edition (Windows Me), and Windows 2000: Check whether the computer has a Plug and Play BIOS. Windows NT: Make sure that CardWizard is installed on your computer and that you have removed any utility that is similar to CardWizard.
Client cannot associate with an access point. In the WLAN Launcher window, you see a red dotted line with an X. Diagnostic network connection test fails.	Click the Padlock icon to display Security/Network settings. Make sure that the WLAN Service Area set on the client matches that set on the access point. Or, set the client to *Attach to any WLAN Service Area*. Make sure that encryption is set up correctly and matches security set on the access point. See "Changing Network and Security Settings" on page 23 and "40-bit Shared Key (Wi-Fi) Encryption Settings" on page 24. If you are associating with a 3Com AirConnect® access point, make sure that the Short RF Preamble parameter is disabled on both access points.
There is no network association when the computer becomes active again after being in sleep mode or after the PC Card is removed and reinserted.	Log out and log in again, or restart the computer to restore the connections.
Client cannot communicate with the network.	Make sure that fixed IP settings are correct. If you are connecting to a wired network, make sure that the access point you are associated with is connected to the wired network. If you are using a DHCP server, release/renew the IP address.
Client is not working under Windows NT.	Make sure that CardWizard is installed and that any utilities similar to CardWizard are not installed.

The PC Card LED indicates the following:

Condition	Description
Off	The computer does not recognize the PC Card.
On, but not blinking	The computer recognizes the PC Card, but the card is not functioning.
Blinking	The PC Card is operating. The blink speed ranges from approximately once every 2.5 seconds to approximately 10 times per second. Slow blinking indicates that the client is either not associated to an access point or is associated at a slow rate. Fast blinking indicates a good network association and fast transmission.

Using the Tools Window

In the Tools window you can change your password, run diagnostics, or upgrade the PC card firmware. If you have 3Com Administrator Utilities, you can also connect to the access point and perform management administration functions.

See the following topics for more information:

- "Changing Your Password" on page 28

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- “Running Diagnostics” on page 29
- “Upgrading PC Card Firmware” on page 34

Uninstalling the Card

Previous installations or interrupted installation attempts sometimes leave problems that affect card operation. Possible problems include:

- PC Card fails to function.
- Operating system does not detect the PC Card.
- System issues a warning tone at startup.

If the installation is unsuccessful, your best course may be to completely uninstall the card and repeat the installation procedure.

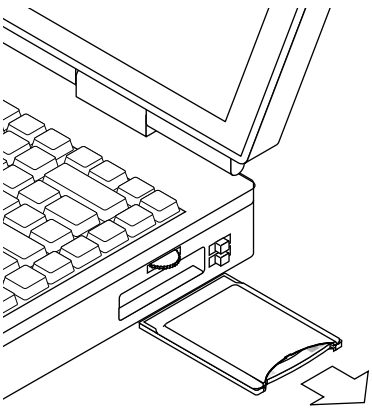
CAUTION: *Exit any networking applications and remove the PC Card driver before uninstalling the card.*

1. Make sure that you have exited any networking applications.
2. Use the standard operating system procedure to remove the card driver.

   The procedure for Windows Me, Windows 98, and Windows 95 is shown below. Refer to your Windows documentation for the exact procedure under Windows 2000 and Windows NT.

   a. From the Windows *Start* menu, select *Settings* and then *Control Panel*.
   b. In the Control Panel, double-click the *System* icon.
   c. In the next window, click the *Device Manager* tab.
   d. Double-click *Network Adapters*.
   e. Select *3Com 3CRWE62092A Wireless LAN PC Card* from the list and click *Remove*.
3. Gently press and release the antenna to retract it.
4. Remove the card.
5. Restart the computer.

CAUTION: *To avoid damaging the card, do not pull on the antenna.*



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Uninstalling Software Utilities

If you want to uninstall the 3Com 11 Mbps Wireless LAN software utilities, you can either use the standard operating system procedure for removing programs or use the following shortcut procedure:

1. From the Windows Start menu, select *Programs*, then *3Com 11Mbps Wireless LAN*, then *Uninstall 3Com 11Mbps Wireless LAN*.
2. When prompted to confirm, click *OK*.

Upgrading PC Card Firmware

Firmware is the software that is installed on the PC Card at the factory. Some problems can be solved by installing a new version of the firmware (*upgrading firmware)*. The following firmware upgrade procedure describes how to download firmware updates from the 3Com customer support Web site to your PC Card.

1. Log on to the 3Com support site at http://support.3com.com.
2. Click *Wireless*.
3. Click *Download Software/Drivers.*
4. Click *3Com 11 Mbps Wireless LAN PC Card firmware files.*

   The Software License Agreement page opens.
5. Read the agreement and click *Yes*.
6. Click *3Com 11 Mbps Wireless LAN PC Card firmware files*.

   The File Download window opens.
7. Check the "Save this program to disk" box and click *OK*.

   The *Save As* window opens.
8. Select a directory to receive the firmware upgrade file and click *Save*.

   You can select any directory on the computer. The firmware upgrade file downloads into the directory.
9. Run the PC Card Upgrade utility:
   - **a** Make sure that the computer is plugged into an AC power source and that the PC Card is inserted.
   - **b** Double click the *3Com* icon in the Windows system tray.
   - **c** In WLAN Launcher, click the *Hammer* icon.
   - **d** In the Tools tab, double click the *Firmware Upgrade* icon.
   - **e** In the *Firmware Upgrade Tool* window, enter the firmware file location path in the space provided. This is the directory name you selected when you downloaded the firmware upgrade from the 3Com customer support Web site.

     If you do not remember the file location, click *Browse*, locate the firmware upgrade file you downloaded from the 3Com support site, click *OK* in the dialog box, and the file will automatically be loaded into the Firmware Filename space.
   - **f** Click *Upgrade*.
   - **g** Read the Firmware Upgrade Warning information and click *OK*.
   - **h** Restart the computer.

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A

WINDOWS NT INSTALLATION WITHOUT NETWORKING INSTALLED

Use the following procedure to install the PC Card software while you are installing Windows NT Networking. For details on installing networking, see your Windows NT documentation.

The CardWizard utility, which helps Windows NT to load and manage software, must be installed. If the installation program does not detect the CardWizard utility on your computer, it will ask whether you want to install it. If you already have a similar utility installed, you must first uninstall that utility to prevent conflicts with CardWizard.

Internet Explorer version 4 is required to view help files. It is recommended that you install Internet Explorer version 5 or later.

Install Files and Networking

1. Make sure that the computer is running and the PC Card is inserted.
2. Put the 3Com CD in the CD-ROM drive.

   If the 3Com 11 Mbps WLAN Menu appears, click *Exit*.
3. From the Windows Start menu, select *Settings/Control Panel*.
4. In the Control Panel, double-click *Network*.
5. When the system prompts: "Windows NT Networking is not installed. Do you want to install it now?", click *Yes*. This opens the Network Setup Wizard.
6. Check *Wired to the network* and click *Next*.
7. When the system prompts to have setup start searching for a network adapter, click *Select from List*.
8. In the Select Network Adapter window, click *Have Disk*.
9. In the Insert Disk dialog box, make sure that the correct path to your CD-ROM drive appears in the entry box (for example, d:) and click *OK*.

   If you are installing from diskettes, enter the path to the diskette drive.
10. In the Select OEM Option window, select *3Com 3CRWE62092A Wireless LAN PC Card* and click *OK*.
11. In the Network Setup Wizard window, click *Next*.
12. In the Network Protocols list, place a check mark next to each network protocol required for your site and click *Next*.
13. In the Network Services window, place a check mark in the box next to each desired service. Select the default settings and click *Next*.

    The message "Windows NT is ready to install networking" appears.

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14 Click *Next*.

The Windows NT Setup windows asks for the location of the Windows NT installation files.

15 Remove the *3Com CD* from the CD-ROM drive, put the Windows NT CD in the drive and wait for it to spin up to speed. Make sure that the correct path to your CD-ROM drive appears in the entry box (for example, d:) and click *Continue*.

(Instead of installing from the Windows NT CD, if you have the Windows NT system files on your computer, you can enter the path to the Windows NT installation files (for example, C:\i386) and click *Continue*.)

The Setup window appears again.

16 In the PC Card Setup window, accept the default settings and click *Continue*.

The default settings work in most cases. However, you may need to specify values for your installation.

17 If the Microsoft TCP/IP Properties screen appears, enter the requested information for your network environment.

Refer to the Windows NT documentation for assistance. If you choose the DHCP server option, click *Yes* to the DHCP prompt. When you are finished entering the appropriate TCP/IP information, click *OK*.

18 When the window for enabling or disabling bindings opens, click *Next*.

19 When Windows NT is ready to start the network, click *Next* to copy the network files.

20 Enter your computer name and workgroup or domain name when prompted and click *Next*.

21 When the system displays "Networking has been installed on this computer," click *Finish*.

22 When prompted to reboot the computer, remove the Windows NT CD from the drive, insert the *3Com CD* in the drive, and click *Yes*.

Install CardWizard

If CardWizard was already installed before you began installing the PC Card, this portion is skipped and the installation proceeds directly to "Set Up the PC Card".

1 When the computer restarts, if the 3Com 11 Mbps WLAN Menu appears, click *Exit*.

2 At the prompt to install CardWizard, click *Yes*.

If you click No and you do not have CardWizard installed, the installation stops.

3 In the CardWizard window, click *Next*.

4 In the CardWizard Welcome page, click *Next*.

5 Read the CardWizard Software License Agreement and click *Yes*.

6 When prompted to remove the PC Card, eject the card and click *Yes*.

7 In the Select Type of Platform window, select your computer type and click *Next*.

If your computer type is not listed, select *Other Notebook* and click *Next*.

8 Respond to the prompts to install CardWizard.

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9 When the CardWizard installation finishes, click the *Restart the computer* radio button and click *Finish*.

10 Insert the PC Card.

Set Up the PC Card

After the computer restarts, the 3Com 11 Mbps Wireless LAN Client Setup window opens. In this window, you can specify the PC Card configuration.

1 In the 3Com 11 Mbps Wireless LAN Client Setup window, select *Typical* and click *Next*.

Typical configures the PC Card with the following default values:

WLAN Service Area—Attach to any WLAN Service Area automatically

Security Setting—No security (Open system)

If you want to customize the PC Card configuration, for example, to add security, select *Custom*. See "Custom Installation Options" on page 16 for details on custom settings. For the fastest installation, it is recommended that you use the typical settings. You can customize the configuration later as described in "Setting the Wireless Client Configuration" on page 23.

2 In the Summary window, review the PC Card setup and click *Finish*.

3 When prompted to run the Setup program, click *OK*.

4 Run the Setup program:

a From the Windows Start menu, select *Run*.

b In the Run dialog box, enter a path to the Setup program on the *3Com CD*. For example, d:\srsetup.exe.

The 3Com 11 Mbps Wireless LAN Setup program starts.

Install Utilities

1 Read the Welcome page and click *Next*.

2 Read the Software License Agreement and click *Yes*. (If you click *No*, the installation stops.)

3 Select a destination folder for the software files and click *Next*.

4 In the Setup Type window, select the type of installation for the software:

Typical—Installs the software and documentation.

Compact—Installs the software but not documentation.

Custom—Allows you to choose the components to install.

5 Follow the directions in the Select Program Folder window and click *Next*.

6 In the Desktop Icon Option window, click *Yes*.

7 In the next window, if the option to restart the computer appears, select it and click *Finish*.

If you had a service pack installed before setting up the PC Card, reinstall it and restart the computer.

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B

TECHNICAL SUPPORT

3Com provides easy access to technical support information through a variety of services. This appendix describes these services.

Information contained in this appendix is correct at time of publication. For the most recent information, 3Com recommends that you access the 3Com Corporation World Wide Web site.

Online Technical Services

3Com offers worldwide product support 24 hours a day, 7 days a week, through the following online systems:

- World Wide Web site
- 3Com Knowledgebase Web Services
- 3Com FTP site

World Wide Web Site

To access the latest networking information on the 3Com Corporation World Wide Web site enter this URL into your Internet browser:

http://www.3com.com/

This service provides access to online support information such as technical documentation and software library, as well as support options that range from technical education to maintenance and professional services.

3Com Knowledgebase Web Services

This interactive tool contains technical product information compiled by 3Com expert technical engineers around the globe. Located on the World Wide Web at **http://knowledgebase.3com.com**, this service gives all 3Com customers and partners complementary, round-the-clock access to technical information on most 3Com products.

3Com FTP Site

Download drivers, patches, software, and MIBs across the Internet from the 3Com public FTP site. This service is available 24 hours a day, 7 days a week.

To connect to the 3Com FTP site, enter the following information into your FTP client:

- Hostname: **ftp.3com.com**
- Username: **anonymous**
- Password: **<your Internet e-mail address>**

You do not need a user name and password with Web browser software such as Netscape Navigator and Internet Explorer.

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Support from Your Network Supplier

If you require additional assistance, contact your network supplier. Many suppliers are authorized 3Com service partners who are qualified to provide a variety of services, including network planning, installation, hardware maintenance, application training, and support services.

When you contact your network supplier for assistance, have the following information ready:

- Product model name, part number, and serial number
- A list of system hardware and software, including revision levels
- Diagnostic error messages
- Details about recent configuration changes, if applicable

If you are unable to contact your network supplier, see the following section on how to contact 3Com.

Support from 3Com

If you are unable to obtain assistance from the 3Com online technical resources or from your network supplier, 3Com offers technical telephone support services. To find out more about your support options, call the 3Com technical telephone support phone number at the location nearest you.

When you contact 3Com for assistance, have the following information ready:

- Product model name, part number, and serial number
- A list of system hardware and software, including revision levels
- Diagnostic error messages
- Details about recent configuration changes, if applicable

Here is a list of worldwide technical telephone support numbers. These numbers are correct at the time of publication. Refer to the 3Com Web site for updated information.

Country	Telephone Number
Asia, Pacific Rim	
Australia	1 800 678 515
Hong Kong	800 933 486
India	+61 2 9937 5085 or 000800 6501111
Indonesia	001 800 61 009
Japan	03 5783 1270
Malaysia	1800 801 777
New Zealand	0800 446 398
Pakistan	+61 2 9937 5083
Philippines	1235 61 266 2602
P.R. of China	10800 61 00137 or 021 6350 1590 or 00800 0638 3266
Singapore	800 6161 463
S. Korea	82 2 3455 6455
From anywhere in S. Korea:	00798 611 2230
From Seoul:	00798 611 2230
Taiwan, R.O.C.	0080 611 261
Thailand	001 800 611 2000

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Country	Telephone Number
Europe, Middle East and Africa From anywhere in these regions, call:	 +44 (0)1442 435529 phone +44 (0)1442 436722 fax
Europe and South Africa From the following countries, you may use the toll-free numbers:	
Austria	0800 297468
Belgium	0800 71429
Denmark	800 17309
Finland	0800 113153
France	0800 917959
Germany	0800 1821502
Hungary	06800 12813
Ireland	1800 553117
Israel	1800 9453794
Italy	800 8 79489
Luxembourg	0800 3625
Netherlands	0800 0227788
Norway	800 11376
Poland	00800 3111206
Portugal	0800 831416
South Africa	0800 995014
Spain	900 983125
Sweden	020 795482
Switzerland	0800 55 3072
U.K.	0800 966197
Latin America	
Brazil	0800 13 3266
Mexico	01 800 849CARE
Puerto Rico	800 666 5065
Central and South America	AT&T +800 998 2112
North America	1 800 NET 3Com (1 800 638 3266) Enterprise Customers: 1 800 876-3266

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Returning Products for Repair

Before you send a product directly to 3Com for repair, you must first obtain an authorization number. Products sent to 3Com without authorization numbers will be returned to the sender unopened, at the sender's expense.

To obtain an authorization number, call or fax:

Country	Telephone Number	Fax Number
Asia, Pacific Rim	+65 543 6500	+65 543 6348
Europe, South Africa, and Middle East	+31 30 6029900	+31 30 6029999
Central and South America	525 201 0075	
Argentina	0810 222 3266	
Bolivia	511 241 1691	
Brazil	0800 133266 or 55 11 5643 2700	
Caribbean	525 201 0004	
Chile	562 240 6200	
Colombia	525 201 0004	
Ecuador	525 201 0004	
Mexico	525 201 0004	
Paraguay	525 201 0004	
Peru	511 241 1691	
Uruguay	525 201 0004	
Venezuela	525 201 0004	
From the following countries, you may call the toll-free numbers; select option 2 and then option 2:		
Austria	0800 297468	
Belgium	0800 71429	
Denmark	800 17309	
Finland	0800 113153	
France	0800 917959	
Germany	0800 1821502	
Hungary	00800 12813	
Ireland	1800553117	
Israel	1800 9453794	
Italy	1678 79489	
Netherlands	0800 0227788	
Norway	800 11376	
Poland	00800 3111206	
Portugal	0800 831416	
South Africa	0800 995014	
Spain	900 983125	
Sweden	020 795482	
Switzerland	0800 55 3072	
U.K.	0800 966197	
U.S.A. and Canada	1 800 NET 3Com (1 800 638 3266) Enterprise Customers: 1 800 876 3266	1 408 326 7120 (not toll-free)

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REGULATORY COMPLIANCE INFORMATION

FCC RADIO-FREQUENCY EXPOSURE NOTICE

This device generates and radiates radio-frequency energy. In order to comply with FCC radio-frequency radiation exposure guidelines for an uncontrolled environment, this equipment has to be installed and operated while maintaining a minimum body to antenna distance of 2.5 cm.

This product does not contain any user serviceable components. Any unauthorized product changes or modifications will invalidate 3Com's warranty and all applicable regulatory certifications and approvals.

FCC PART 15 NOTICE (APPLICABLE TO USE WITHIN THE USA)

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

WARNING: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from the one which the receiver is connected to.
- Consult the dealer or an experienced radio/TV technician for help.

The user may find the following booklet prepared by the Federal Communications Commission helpful:

The Interference Handbook

This booklet is available from the U.S. Government Printing Office, Washington, D.C. 20402. Stock No. 004-000-00345-4.

MANUFACTURER'S DECLARATION OF CONFORMITY

3Com Corporation
5400 Bayfront Plaza
P.O. Box 58145
Santa Clara, CA 95054-8145
(408) 326-5000

Declares that the product:

Date: **1 November 2000**

Brand Name: **3Com Corporation**

Model Number: **WL-305**

Equipment Type: **Wireless LAN PC Card**

Complies with Part 15 of the FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

INDUSTRY CANADA NOTICE (APPLICABLE TO USE WITHIN CANADA)

This Class B digital apparatus complies with Canadian ICES-003.

To prevent radio interference to the licensed service, this device is intended to be operated indoors and away from windows to provide maximum shielding. Equipment (or its transmit antenna) that is installed outdoors is subject to licensing.

AVIS DE CONFORMITÉ À LA RÉGLEMENTATION D'INDUSTRIE CANADA

Cet appareil numérique de la classe B est conform à la norme NMB-003 du Canada.

Pour empêcher que cet appareil cause du brouillage au service faisant l'objet d'une licence, cet appareil doit être utilisé à l'intérieur seulement et devrait être placé loin des fenêtres afin de fournir un écran de blindage maximal.

EUROPEAN COMMUNITY - CE NOTICE

Marking by the symbol:

CE 0682 !

indicates compliance of this equipment to the R&TTE Directive 1999/5/EC. Such marking is indicative that this equipment meets

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or exceeds the following technical standards:

- ETS 300 328 - Electromagnetic compatibility and Radio spectrum Matters (ERM); Wideband Transmission systems; data transmission equipment operating in the 2,4 GHz ISM band and using spread spectrum modulation techniques
- ETS 300 826 - Electromagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for 2,4 GHz wideband transmission systems and HIgh PErformance Radio Local Area Network (HIPERLAN) equipment
- ES 59005 - Considerations for the evaluation of human exposure to electromagnetic fields (EMF's) from mobile telecommunication equipment (MTE) in the frequency range 30 MHz - 6 GHz
- EN 55022 - Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment. (CISPR 22 Class B).
- EN 60950 - Safety of information technology equipment, including electrical business equipment.

SAFETY COMPLIANCE NOTICE

This device has been tested and certified according to the following safety standards and is intended for use only in Information Technology Equipment which has been tested and certified to these or other equivalent standards:

- UL Standard 1950 / CSA C22.2 No. 950
- IEC 60950
- EN 60950

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Should you have any questions concerning this Agreement or if you desire to contact 3Com for any reason, please contact the 3Com subsidiary serving your country, or write: 3Com Corporation, Customer Support Information, 5400 Bayfront Plaza, Santa Clara, CA 95052

3Com Corporation, 5400 Bayfront Plaza, P.O. Box 58145, Santa Clara, CA 95052-8145. (408) 326-5000

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